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AUTHOR Armstrong, Suzy; Karr-Kidwell, J. P.
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ABSTRACT

The influence of sex-labelling on adult-infant interactions is explored in this study. It is hypothesized that, when introduced to a single infant identified as either male or female, adults will (1) offer more masculine sex-stereotyped toys to the infant perceived to be male; (2) offer more feminine sex-stereotyped toys to the infant perceived to be female; (3) interact in a more "active" way with the infant perceived to be male; and (4) interact in a more "passive" way with the infant perceived to be female. Subjects consisted of eight men and 22 women of ages ranging from 18 to 57 years. A 13-month-old male child was chosen to participate in the study. Seven masculine and seven feminine toys were selected from a list of 48 sex-stereotyped toys. Additionally, two non-sex-stereotyped toys were selected to distract from the obvious sex-stereotyping of toys. Video tapes of 3 minutes duration were made of each subject/child interaction and were later viewed and coded. To control for clues to gender identity resulting from misspeaking and nonrandomness, a system for introducing the child as either male or female was developed. All hypotheses were supported at the .10 level of significance. It is concluded that the results confirm the general hypothesis that adults would behave differently toward a single child depending on whether the child was perceived to be either "male" or "female." (Author/ RH)

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The Effects of Sex-Labelling on Adult-Infant Interactions

Ms. Suzy Armstrong
M.Ed.-Texas Woman's University,
Early Childhood Education
Early Childhood-consulting

Dr. P.J. Karr-Kidwell
M.A., Ph.D.-Ohio State University
Assistant Professor, Texas Woman's
University, College of Education

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"Of all the variables that can be used to divide people into groups, sex is probably the most fundamental and pervasive" (Brophy, 1974, p. 199). Differences between the sexes have long been a topic of curiosity, with the current women's movement of sexual equality causing a resurge of interest (Birns, 1976).

Most recently research has focused on establishing what differences actually do exist between male and female people. Maccoby and Jacklin (1974) published a comprehensive review of 1400 studies on sex differences conducted between 1965 and 1973 using subjects ranging in age from one day to maturity. They concluded that these studies revealed only four significant differences in males and females: females have greater verbal ability; males excel in visual/spatial relationships; males excel in mathematics; and males are more aggressive. Further studies conducted since the publication of Maccoby and Jacklin have explored sex differences in relationship to school performance. Brophy (1974) reports that although there are no established differences in general intelligence, girls out perform boys in early elementary school and boys are more frequently referred for remedial reading. Goggin (1975) conducted a study to determine whether a sex-linked pattern of hyperactivity was observable and found that boys were more active than girls and he thus concluded, boys are possibly more prone to the vicious cycle of early school failure typical of the hyperactive child.

In spite of such a large volume of data regarding specific sex differences, there is no conclusive research revealing causes for the differences. While most psychologists believe that sex differences are

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attributable to variables between male and female personality and intellectual abilities, it is not known whether such differences are a function of innate biological differences or if they are primarily learned (Birns, 1976).

One approach to disentangling biological and environmental influences is through the study of newborn infants, who have been exposed to minimal environmental influences (Phillips, King, & DuBois, 1978). However, little research has been conducted which is restricted to newborns. Phillips et al. (1978) did conduct one such study and found that male babies were awake more, displayed more facial grimacing and engaged in more low-intensity motor behavior. These findings seem to point to the possibility of some biological differences in the sexes, but studies of older infants do not substantiate such sex differences (Birns, 1976; Moss, 1967).

It is theorized that where such specific sexual differences do exist, they are amplified over time through deliberate instruction, unconscious conditioning and stereotyped sex role attitudes of parents and culture (Brophy, 1974; Moss, 1967). This cultural conditioning is apparently highly influential upon infants (Moss, 1967). Learning theorists point out that early learning experiences are the most highly resistant to extinction and that preverbal learning is the most difficult of all behaviors to extinguish (Moss).

In light of such deep-set conditioning, it would seem that current research should attempt to uncover what sex-role stereotyped expectations are operating in adult interactions with infants. Research has validated that male and female infants are treated differently by parents. Moss (1974) found that mothers of male infants held, atterded

to, and stimulated and aroused their infants more than mothers of female infants.

More recently, Condry and Condry (1976) broadened the research on sex stereotyped attitudes of infants to include adults in general and not merely parents. One finding indicated that the infant labelled male was seen as showing more pleasure in all situations and was seen as more active than the infant labelled female.

The present study further explores the influence of sex-labelling on adult-infant interactions. As in the previous cited study, a single infant will be observed, and will be labelled female for half the observations and male for the other half. Based on previous research findings regarding adult/infant interactions with regard to sex differences, it is predicted that:

H_1 Adults will offer more masculine sex-stereotyped toys to the infant perceived to be male.

H_2 Adults will offer more feminine sex-stereotyped toys to the infant perceived to be female.

H_3 Adults will interact in a more "active" way with the infant perceived to be male.

H_4 Adults will interact in a more "passive" way with the infant perceived to be female.

Methods and Procedures

Subjects for this study were 33 volunteer adults. Three subjects had to be eliminated. One was eliminated due to malfunction of the video equipment, one because the subject was not eighteen years old, and one because the subject perceived the nature of the study. The final sample consisted of 30 adults, with ages ranging from 18 years to 57 years. There were eight men and 22 women. 16 of the adults were parents and 14 were not. Six were graduate students enrolled in Texas Woman's University education courses, fifteen were employees of

two Stephenville, Texas community social agencies, and nine were employees of a Dallas, Texas community social agency. Each subject was required to sign a consent form approved by the Human Research Review Committee of Texas Woman's University. The child's mother was present in the room for each observation.

Selection of Child

A thirteen month old male child was chosen to participate in the study. He was selected because of his amiable disposition in relating to strangers, his appearance as "passable" as either a male or female child, and his parents' willingness for him to participate.

Dress of Child

It was determined that the child would be dressed in a yellow sunsuit and would be barefoot. The sunsuit was chosen because of its acceptability as appropriate for either a male or a female child.

Room Arrangement and Furnishings

Because the observations were to take place in several different locations and room sizes, a round, expanding "child corral" was chosen to insure that the actual space used in each observation was the same. Additionally, a white plastic shelving unit was purchased to be placed outside of the corral, within adults' reach but not within the child's reach, on which the toys were to be placed.

Toy Selection

Toys for the study were selected from a list of 48 sex-stereotyped toys (Zucker, 1977). Seven masculine and seven feminine toys were selected from the list with criteria being appropriateness for a thirteen month old child, availability, and similarity of attributes for masculine and feminine selections. For example, equal numbers of masculine and feminine toys with movement were provided. Additionally,

toys were matched in terms or size as much as possible. No toys with sound attributes were included. The masculine toys selected were: large plastic wheelbarrow, tractor, soldier, Fisher Price Dump Truck with peg passenger, gun, baseball mitt, and a tool set (plastic hammer and screwdriver). The feminine toys selected were: large plastic stroller, cradle with doll, doll, Fisher Price Cradle with peg baby, iron, purse, and a tea set.

Additionally, two non-sex-stereotyped toys were selected to distract from the obvious sex-stereotyping of the toys. Non-sex-stereotyped toys were a teddy bear and a multi-color stacking rings set.

Manipulation of Sex-Labelling

A system of introducing the child as either male or female was developed to insure that "gender slips" would be avoided and to insure that no predictable order would be notable to the coders viewing the tapes.

Consent forms were numbered prior to the observation sessions. All even numbers were stacked together and subjects receiving them were given "female" child introductions. All odd numbers were stacked together and subjects receiving them were given "male" child introductions. Additionally, index cards with a single alphabet label were pinned onto each subject to aid in identification on the video tapes. The letter assigned to the subject was recorded on the consent form.

Procedures with Subjects

Recording sessions took place in available classrooms or offices at the four business locations of subjects.

Each session took place when the child was rested. Six to ten 3-minute adult/child interactions were recorded at each recording session. There were a total of four recording sessions which took place on June 29, July 5, July 6, and July 11, 1979.

The child was playing inside the corral with his mother and toys were arranged on the shelves prior to each session. Prior to entering the recording room, each subject received instructions from the researcher. The instructions were read from a three by five index card and varied only in the name and gender of the child (see Appendix A). Following the reading of the instructions an alphabet card was pinned on the subject.

Upon entering the room, the subject was instructed to enter the corral. Video-taping began. At the conclusion of each three minute observation period, the subject was thanked and given a form containing follow-up instructions and requesting information about the subject for possible future research data.

Between each three minute session, the mother of the child returned any toys left in the corral to the shelves and rearranged all toys on the shelves.

At the conclusion of the day's recording sessions, the researcher gathered the information forms and explained the nature of the study to interested subjects.

Coding Procedures

An observation system was developed by the researcher to examine two areas of adult interaction with the child. Areas examined were toys offered to the child by the adult and adult active vs. passive interactions with the child. Video tapes were made of each subject/child interaction and were later viewed and coded. Two coders were used to insure objectivity and standardization of the coding system. One coder was the researcher and the other was a graduate student and former speech therapist. Detailed instructions regarding the coding system were given to the graduate student coder by the researcher.

Two trial sessions were reviewed prior to the beginning of the actual coding sessions. The trial sessions consisted of three minute sessions which had been eliminated from the study.

The first 150 seconds of each subject/child interaction were coded. Volume was turned off during the coding sessions so that the coders were not aware of whether they were viewing the adult interacting with the child introduced as "male" or "female".

Toy Selection Coding

One color marker was used to code the subjects' initial toy selections from the shelves. A different color marker was used to record each time the toy was reoffered to the child. The following criteria were developed for use in coding toy selection:

1. One red mark was scored when a toy was taken off of the shelf.

2. When the adult initially offered the toy to the child, one black mark was scored. This score most often occurred immediately after the toy was taken from the shelf. However, in the event that several toys were initially taken from the shelves, a score might not occur until the toy was offered several seconds later.

3. Some toys had more than one part, including the tool set, the tea set, the dump truck with peg passenger, the two cradles with dolls, and the stacking rings. Since these toys were listed as a unit in the Zucker (1977) study, they were also considered a unit in this study. Therefore, when either one or both parts of the toy was offered simultaneously, a score of one was given.

4. Following initial toy selection and initial toy offering, a black mark was scored each time that the toy was reoffered to the child. Reoffering was considered to be: (a) when a break in child or adult activity with a toy occurred and the toy was later reoffered to the child; (b) when the toy was held continuously by the adult

but was not actively played with and then was reoffered to the child; and (c) when the adult extended the toy to the child to try to interest the child. Care was taken to insure that continuous play with a toy was not scored unless it was the adult trying to coerce the child to play. If it was the child's interest that was prompting the play, no scores were given for adult involvement. However, if the adult continually presented the toy to the child due to the adult's interest in the toy rather than the child's interest, a score was given. For example, if the child was sitting playing with the truck and the adult rolled the truck back and forth as a way of interacting with the child, no score was given. However, if the child was playing with the truck, then lost interest and picked up another toy and the adult continued to roll the truck to try to reinterest the child, a score was given.

Active vs. Passive Adult Behavior Coding.

The following list of adult behaviors were classified as active and passive by the researcher. Active interactions included: any form of tickling child, tossing child in air, rolling child or toy in stroller in a specific direction, jostling child, bobbing toy toward child, thrusting toy toward child, pounding toys together or pounding individual toy on floor, child or adult clapping hands or toys together, rolling toys, patting feet, bouncing child on knee or in air. Passive interactions included: stroking child, gently rocking child or toy in stroller in back and forth manner, holding child closely, picking child up, encouraging child to hug or kiss doll or teddy bear, talking to child, and touching child's hair gently.

In recording adult active vs. passive behavior, a four second time interval coding system was utilized.

Procedure with Data

Scores for each adult and infant interaction were tallied for each coder yielding total scores for masculine toys offered to the "male" and "female" child, feminine toys offered to the "male" and "female" child, adult active play with the "male" and "female" child, adult passive play with the "male" and "female" child. Scores for the two coders were then compared. The following criteria were set for coder agreement standards: No toy selection scores differing by more than two tallies would be used; and no active/passive scores which were lower than 86 percent agreement between the two coders would be used. Intercoder agreement was sufficient that no scores had to be eliminated. Scores of the two coders were then averaged for each subject observation.

Results

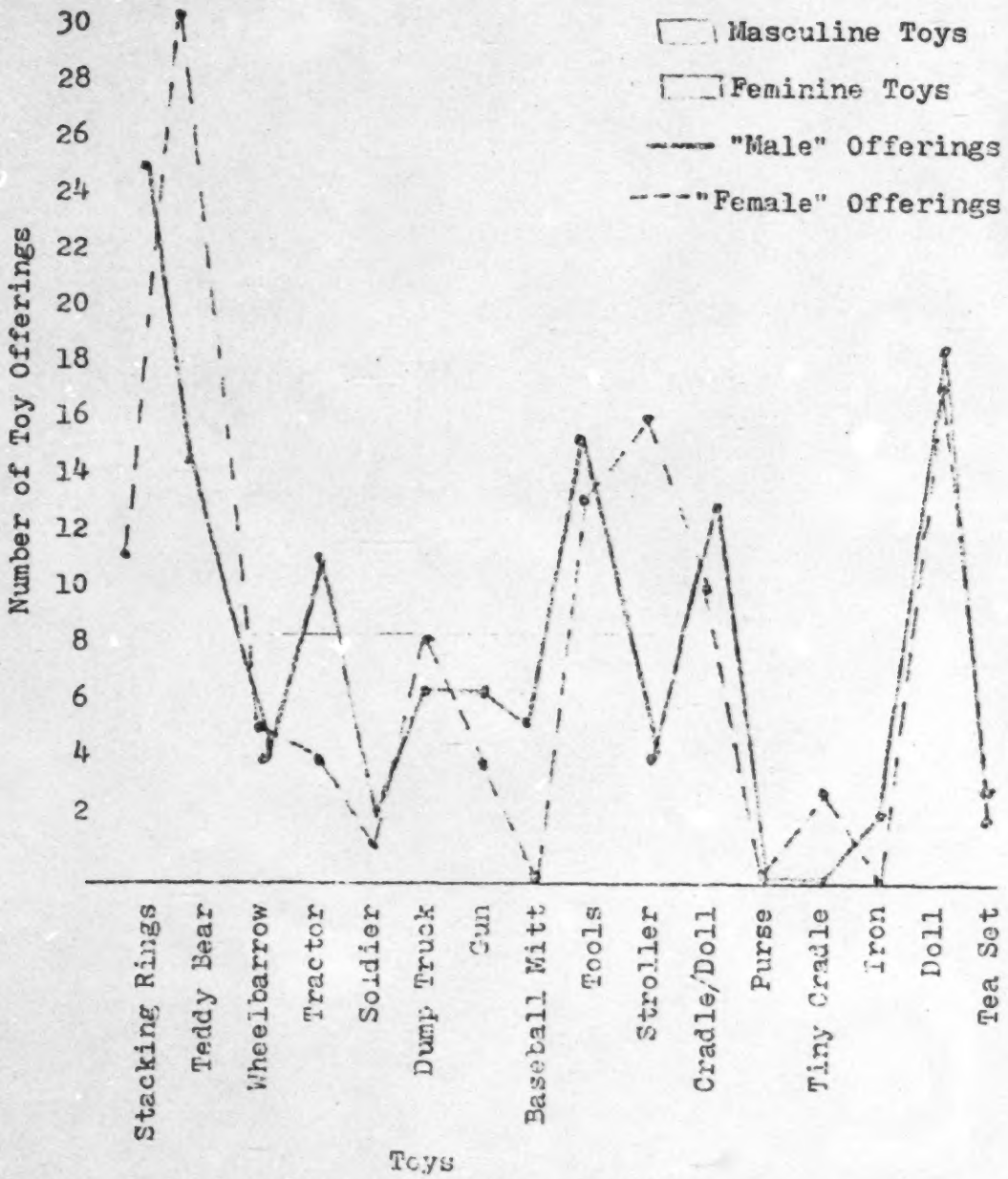
Figure 1 is a graph showing the number of toy offerings for each toy used in the study. The results indicated a significant difference in total toys offered to the "male" and "female" child ($\underline{x}^2(1) = 2.94$, $p < .10$) The adults did not initially choose more masculine toys for the "male" child or more feminine toys for the "female" child. Therefore research H_1 that adults will offer more masculine sex-stereotyped toys to the infant perceived to be male was supported at the .10 level, two-tailed test when total toy offerings were considered, but was not supported when initial toy selections only were considered. H_2 was also supported at the .10 level when total toy offerings were considered.

Significant differences were found in adult active and passive involvement with the "male" and "female" child ($\underline{x}^2(1) = 3.81$, $p < .10$). The "male" child was played with in a more active manner than the "female" child. Therefore, H_3 that adults will interact in a more "active" way with the infant perceived to be male, and H_4 that adults will interact in a more "passive" way with the infant perceived to be female were both supported at the .10 level, two-tailed test.

Figure 1

Number of Toy Offerings

To "Male" and "Female" Child



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Interpretations

The present research confirmed that adults behaved differently towards a single child when that child was perceived to be either "male" or "female". More specifically, the study revealed that adults offered sex-stereotyped toys to the child based on the adult's perceived sex of the child and that adults interacted in a more active manner with the child perceived to be "male". These findings are consistent with the substantial amount of other research findings revealing differences in treatment of male and female infants and children by adults.

While many past studies speculate that the treatment differences are not related to actual differences in male and female children (Bakeman & Brown, 1977; Cherry & Lewis, 1976; Smith & Lloyd, 1978; Weinraub & Frankel, 1977), the present study apparently revealed that the differences in treatment were due solely to adult behavior because a single child was used.

Findings regarding differences in adult behavior will be discussed in each of the areas researched: toy offerings and adult passive/active involvement.

Toy Offerings

Consistent with other research (Rheingold & Cook, 1975; Smith & Lloyd, 1978; Will et al., 1976), this study revealed differences in toys offered to the child perceived to be "male" and the child perceived to be "female". Significant differences ($p < .10$) were noted when total number of toy offerings were calculated. However, further analysis revealed interesting findings. When only initial toy selection tallies were submitted to chi-square analysis, no significant differences were found. Since the coding system was designed to insure that the "total toy selection scores" represented adult behavior and not child's interest, the total toy

selection analysis may be considered to be a good indicator of differential treatment based on the perceived sex of the child. However, the fact that initial toy selection and total toy offerings data yield conflicting results indicates a need for further examination.

It would seem that initial toy selection would be a good indicator of adult sex-stereotyping because it involved a conscious choice of toy. The fact that the initial toy selection data did not reveal a significant difference for the "male" and "female" child may indicate a general lack of sex-stereotyping by the adults in this sample in the area of toy selection. The total toy selection data revealing significant differences might indicate persistence by some adults who did choose sex-stereotyped toys and who then "pushed" the choice onto the child, in spite of the child's lack of interest.

These differences could have been the result of different factors, population being one of those factors. Since the subjects were primarily enrolled in graduate education courses or were employees of social service agencies, it is possible that their interactions were more "typical" of a select group who is more aware of sex-stereotyping. Their awareness could be the result of reading, training, and exposure to new ideologies of relating to children in non-sex-stereotyped manners. Conversely, a more diverse sample could have been more traditional in their interactions.

Examination of specific toy offerings also yield interesting analyses. Two "neutral" or non-sex-stereotyped toys, the stacking rings and the teddy bear, were included in the study

to divert subjects' attention from the obvious sex-stereotyping of the other toys. These two toys were the two toys most frequently offered to the child. These findings may be interpreted to mean that the adults were consciously choosing "neutral" toys. It is possible, however, that these toys were chosen most often because they were considered to be the most appealing to a child thirteen months old. Further, adults did indeed offer the two "neutral" toys in a sex-specific manner. The stacking rings were offered to the "male" infant 69% of the times that they were offered, while the teddy bear was offered to the "female" infant 67% of the times that it was offered.

Four of the toys were actually offered to the "opposite" sex more often than to the "expected" sex. The iron was offered only to the "male". The tiny dump truck with peg doll was offered slightly more often to the "female". Both the doll and the cradle with doll were offered slightly more times to the "male" child. The doll offerings are quite surprising, in view of results of other studies. Rheingold and Cook (1975) found definite parental stereotyping in children's room furnishings with girls being furnished with many more dolls. The two studies which were very similar in design to this one also used dolls as sex-stereotyped feminine toys (Smith & Lloyd, 1978; Will et al., 1976). In each of these studies, the doll was offered significantly more often to the "female" child.

Tauber (1979) indicates that girls are more free to play with "male" toys than are boys to play with "female" toys.

This study does not replicate that finding. It has already been noted that several toys were offered more to the child of the "opposite" sex than to the "expected" sex. Only in one instance, the dump truck, was this toy a masculine toy offered to a "female". The other instances were all feminine toys offered more often to the "male" child. These toys were the cradle with the doll, the doll, and the iron. Also, total toy offerings data reveal that the "female" child was offered masculine toys 42% of the time that masculine toys were offered, while the "male" child was offered feminine toys 44% of the time that feminine toys were offered. These scores are almost identical, revealing that in this study there was apparently no difference in either sex being "freer" to play with "opposite-sex-stereotyped" toys.

Active/Passive Involvement

The present study revealed that adults interacted differently with the infant based on the perceived sex of the infant, with the "male" child being played with in a more active manner than the "female" child.

Further examination of adult interaction patterns also yield interesting findings. Adults played with both the "male" and "female" child in a passive way the vast majority of the time (86.8%). Even though adults interacted with both the "male" and "female" child more frequently in a passive manner, significant differences in treatment did occur, with the "male" child being played with more frequently in an active manner than the "female" child. This finding is consistent with the findings of Smith and Lloyd (1978) that mothers offered more stimulation in reply to the gross motor behavior

of perceived boys.

Reasons for the high amount of adult passive play with the infant in all situations are speculative. Since active play included only those behaviors specifically defined as "active" by the researcher, passive play tallies included many moments of adult inactivity, which in some cases reflected no involvement with the child at all. Perhaps adults played more passively with the child because of the specific environment of the video recording sessions or perhaps it is true that adults typically engage in more passive than active play with children. Nevertheless, it appears that when adults do engage in active play, it is more frequently directed to the child perceived to be "male".

Recommendations

More research is needed to determine what sex-role stereotypes are operating in adult interactions with children. It is important that research regarding sex differences in children and adult differences in treatment of children based on perceived sex differences be conducted in such a way as to eliminate the bias of preconceived sex expectations.

The present study serves as a good pilot study for further research. The following recommendations would enhance the study:

1. More studies should be conducted which insure that the sex of the child is not known to either the subjects or to the researcher, and that insure that any observed treatment differences are not due to actual behavioral differences in the children or to play style differences in the adults.

2. Use a randomized population, or a population with more diverse backgrounds to extend the generalizability of the present study.

3. Eliminate those toys which were not offered consistently to either the "male" or "female" child. These would include: iron, toy soldier, baseball mitt, tiny cradle with peg doll, purse, and tea set. Toys for this study were chosen because they were validated through research to be sex-stereotyped. However, many of the toys were not appropriate for the age child in the study. Since it is difficult to manipulate sex-labelling on a child much older than the one used in the present study, it is recommended that another list of toys be used which would be more appropriate for the toddler age child. It would be necessary to conduct research to determine a list of sex-stereotyped toys for the infant and toddler.

Further recommendations in the area of toy selection would be to determine other neutral toys since the ones used in this study were offered in a sex-stereotyped manner. It would be interesting to determine if manipulative toys were offered more often to boys and stuffed animals were offered more often to girls.

4. The coding system should be refined in the coding of active/passive adult behavior. More than two coders should be used to insure greater reliability of the coding system. A reliability measure should be used to insure high interobserver reliability. Three to five second time interval coding should be maintained. A third category of

"non-involvement" should be defined and coded. In addition to coding a general active and passive score, it would be interesting to further investigate specific behaviors as they are directed to male and female children. Such behaviors might be: encouragement to "nurture"; encouragement to hit or pound; encouragement to gross motor behavior.

5. Further analyses could be conducted in the area of verbal interactions with the child, including sex-stereotyped comments and numbers of utterances directed toward the child. A highly sensitive microphone would have to be used, as adults tended to speak quietly to the child in this study, and many sounds were not picked up via the video equipment.

6. Further analyses of initial toy selection and re-offering of toys should be conducted. It would be interesting to determine if adults are generally more persistent in re-offering sex-stereotyped toys than non-sex-stereotyped toys.

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